State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION FOR PAVING BRICK AND CONCRETE PAVER PAVEMENTS AND SIDEWALKS

Effective: January 1, 2004

All references to Sections or Articles in this special provision shall be construed to mean a specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

Description. This work shall consist of constructing pavement or sidewalk, composed of paving bricks or concrete pavers, on a prepared subgrade, subbase or base.

Materials. Materials shall conform to the following:

Item	Article/Section
(a) Fine Aggregate (Note 1)	1003.02(d)

(b) Edge Restraints

For sidewalk, the edge restraints shall conform to the manufacturer's recommendations. For pavement, the edge restraints shall be combination concrete curb and gutter according to Section 606.

(c) Paving Brick (Note 2)

Paving brick shall be made from clay or shale and shall conform to the following:

(1) Sidewalk and Light Vehicular Traffic. Paving Brick for sidewalk and light vehicular traffic shall be Class SX, Type 1 according to ASTM C 902.

(2) Heavy Vehicular Traffic. Paving brick for heavy vehicular traffic shall be according to ASTM C 1272.

For ASTM C 902 and ASTM C 1272, satisfactory, in-service performance will not be accepted as a means to waive physical test requirements.

(d) Concrete Pavers (Note 2)

Concrete Pavers shall be according to ASTM C 936 except:

(1) Water shall conform to Section 1002.

(2) Aggregate shall conform to Articles 1003.02 and 1004.02, with the exception of gradation. Chert gravel may be used based on satisfactory, in-service performance.

(3) Fly ash shall conform to Articles 1010.01 and 1010.03.

(4) Microsilica shall conform to Section 1014.

(5) Ground granulated blast-furnace slag shall conform to Section 1016.

(6) Proof of the concrete paver's resistance to freezing and thawing shall be based on ASTM C 67 test results which meet ASTM C 936 requirements. Proven field performance will not be accepted in lieu of the ASTM compliance certification.

The concrete pavers shall be produced according to the Department's Bureau of Materials & Physical Research Policy Memorandum, "Quality Control/Quality Assurance Program for Precast Concrete Products". For ASTM C 936, evidence of the concrete paver's resistance to freezing and thawing shall be provided in the Producer's Quality Control Plan."

Note 1. The fine aggregate shall be sand, silica sand, or slag sand conforming to Article 1003.01. It shall also be Class A quality and dry. For bedding, the gradation shall be FA 1 or FA 2; for joint filling, the gradation shall be FA 9.

Note 2. The dimensions of the bricks and/or pavers shall be as shown on the plans.

Equipment. Equipment shall conform to the following:

Item	Article/Section
(a) Pneumatic-Tired Rollers	1101.01(a)

(b) Masonry Saw. The masonry saw shall be a wet or dry saw capable of clean and accurate cuts.

(c) Vibrator/Compactor. The vibrator/compactor shall be either a plate compactor with a high frequency, low amplitude plate or a rubber-roller mechanical vibrator.

Aesthetic Mockup, Review, and Approval. A 1 square yard full-scale mock-up using actual job specific edge restraint (if other than combination concrete curb and gutter), materials, brick dimension, colors, methods and workmanship shall be provided by the Contractor. The actual vibrating equipment and vibrating rate to be used on the job shall be used on the mockup. The accepted mock-up will be standard by which remaining work will be evaluated for technical and aesthetic merit. The mock up may be in a location of proposed installation where it may remain if approved by the Resident Engineer.

CONSTRUCTION REQUIREMENTS

Preparation of Subgrade. The subgrade shall be prepared according to Section 301, except Articles 301.04 and 301.05 will not apply.

Edge Restraints. Edge restraints shall be placed to a depth of at least the bottom of the bedding course.

For pavement, a transverse full-depth cast-in-place concrete header shall be placed at the limits of the pavement.

Bedding Course. The fine aggregate for bedding shall be placed and screeded, without compaction, to a uniform thickness of 25 mm to 38 mm (1 in. to 1.5 in.). Prepared areas shall not be left overnight, unless they are protected from disturbance and moisture. Stockpiled material shall be kept covered. Any saturated bedding aggregate shall be removed and replaced.

Installation. The bricks or pavers shall be laid in the pattern shown on the plans with a joint width from 3 mm to 6 mm (1/8 in. to 1/4 in.) on all sides. Whole bricks or pavers shall be laid first, starting from an exact edge or from the centerline of the pavement, followed by cut bricks or pavers. Cut bricks or pavers shall be at a minimum 33% of the whole unit size.

After the entire pavement or sidewalk has been laid, it shall be set into the bedding course by one pass of the vibrator/compactor. Vibration/compaction shall stop within 1 m (3 ft) of any unrestrained edge.

For pavement, construction equipment shall not be driven on the new surface until the joints have been filled.

Joint Filling. The fine aggregate for joint filling shall be spread over the pavement or sidewalk and hand broomed into the joints. The aggregate shall then be worked down into the joints with multiple passes of the vibrator/compactor. Each pass shall be alternated 90 degrees from the previous pass. This process shall be repeated until the joints are completely filled.

Excess fine aggregate shall be removed by hand brooming.

All bricks and pavers within 2 m (6 ft) of the laying face shall be compacted and the joints completely filled with sand at the end of each workday.

For pavement, final rolling shall be completed with a 5-10 ton static pneumatic-tired roller.

Smoothness. For pavement, the completed surface will be tested for smoothness with a 5 m (16 ft) straightedge. Surface variations of the mainline pavement shall not exceed 5 mm (3/16 inch).

Method of Measurement. This work will be measured for payment as follows:

(a) Contract Quantities. The requirements for the use of contract quantities shall conform to Article 202.07(a).

(b) Measured Quantities. This work will be measured for payment in place and the quantity shall be computed in square meters (square yards). Measurements will not included the edge restraints.

Edge restraints constructed of combination concrete curb and gutter will be measured according to Article 606.13.

Basis of Payment. This work will be paid for at the contract unit price per square meter (square yard) for PAVING BRICK PAVEMENT FOR LIGHT TRAFFIC, PAVING BRICK PAVEMENT FOR HEAVY TRAFFIC, CONCRETE PAVER PAVEMENT, PAVING BRICK SIDEWALK, or CONCRETE PAVER SIDEWALK.

Edge restraints constructed of combination concrete curb and gutter will be paid for according to Article 606.14.